

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. :	09/618,741	
Applicant :	Thomas M. Hartnett et al.	Confirmation No. :
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T.C./A.U. :	1731	
Examiner :	John M. Hoffmann	
Docket No. :	RTN2-118PUS (formerly 07206-118001)	

**REPLY BRIEF TO EXAMINER'S ANSWER**

The Examiner, in his answer dated December 11, 2009, states in lines 1-3 of page

5:

As to the particles being at "a" temperature, see col. 2, lines 8-9. Although Maguire states that a two-step heat treatment is "preferred", it is clear that one not need two steps/temperatures.

There is no evidence presented by the Examiner that one can produce aluminum oxynitride in a one-temperature step process. It is respectfully submitted that the Examiner reaches this conclusion only by the use of unpermitted hindsight. Further, if the "preferred" heat treatment of Maguire is a two-step process, and it is, as stated by the Examiner "clear that one not need two steps/temperatures" why didn't Maguire describe his "preferred" process as a simpler single step process.

In the paragraph beginning at the second line from the bottom of page 6 and continuing to page 7 line 3:

It is deemed that one would infer from /Maguire's language (such as the claim 3 "said heating step occurs at a temperature" that Maguire uses only one temperature, and it is maintained there for whatever time period is necessary to complete the reaction.

HOWEVER, *there is no teaching in Maguire* that the temperature is at **ONLY one** temperature as asserted by the Examiner.

It is first noted that the Examiner's statements above refers to claim 3 and to material in presented in the Summary section, which tracks the language in the claim 3. It is well known in patent law that if a patent application describes a chair having three legs (i.e., a tripod like-structure), the inventor is allowed to claim in one claim a chair having "a leg" and to claim in another claim a chair having three legs. If another subsequent inventor recognizes an advantage in having a chair with ONLY ONE leg (i.e. a stool that can easily rotate as when inserted into a cylinder or hole), the Examiner would be incorrect in stating that the patent issuing on the earlier invention *describes* a chair with ONLY ONE LEG because the issued patent has a *claim* to a chair having "a leg". Yes, the chair in the earlier patent had a leg, in fact it had three legs; but the patent *NEVER* described a chair having *ONLY ONE* leg. *LIKEWISE, Maguire NEVER described a process for forming aluminum oxynitride at ONLY ONE temperature*

Maguire clearly teaches that one in a FIRST PROCESS react alumina, carbon, and nitrogen at a FIRST TEMPERATURE to form aluminum nitride. ONCE the formed aluminum nitride is formed, the FORMED aluminum nitride is reacted with alumina to form aluminum oxynitride at a SECOND TEMPERATURE.

Thus, it is respectfully submitted that the statement by the Examiner that "Maguire uses only one temperature" *is incorrect*. Further, Applicant finds no support for the statement that from the teaching of Maguire, "... it is clear that one not need two steps/temperatures").

Applicant reiterates and incorporates herein by reference the arguments set forth in its brief and its previously filed reply brief.

Applicants discovered they were able to use a single rotary furnace to

COMPLETELY REACT ALUMINA PLUS CARBON MIXTURE IN THE PRESENCE OF NITROGEN TO FORM ALUMINUM OXYNITRIDE. The ability to COMPLETELY REACT THE ALUMINA PLUS CARBON IN THE PRESENCE OF NITROGEN TO FORM ALUMINUM OXYNITRIDE in a single furnace is not obvious in view of the prior art. Thus, it was not obvious that one can produce aluminum oxynitride in a single temperature process in a rotary drum when the prior art teaches one to perform a FIRST REACTION which takes approximately one hour to first completely react the ALUMINA PLUS CARBON to form both alpha-alumina and aluminum nitride and then subsequently take THE FORMED alpha-alumina and aluminum nitride to form, in a SECOND REACTION, cubic aluminum oxynitride at a higher temperature.

In view of the two-process step teaching of the prior art to produce aluminum oxynitride it appears that the Examiner is using unpermitted hindsight in reaching his conclusion of obviousness rather than following the teachings of the prior art, i.e., a teaching of a two-step process to produce aluminum oxynitride.

Respectfully submitted,

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